Dewan's reply.—The roads mentioned by the Member are included as Nos. 25 A and 28 in the list of public works for the Quilon Division. They will be taken up in their turn.

70. The necessity for providing a sluice near the Paravoor Bar for the protection of cultivation.

Mr. Stephen Joseph (Member, Nominated) said that the existing practice was to keep open the Paravoor Bar from Edavom to Thulam and to close it from Vrischigom to Medom every year but that the agency employed for the purpose would not always be able to do so. During the current year, the bar opened at a time when it ought not to be open and it was not found possible to close it with the small allotment available for the purpose. The result was that the Makarom crop was completely damaged by the brine in the several adjoining *proverthies*. A satisfactory method of regulating the opening and closing of the Bar was therefore essential in the interests of both traffic and irrigation.

The Member suggested the following schemes for remedying the evil : —

1. One proposal was to build a head-wall to the height of the ordinary water level and to have a weir, with arrangements to discharge the flood-waters into the sea. In that case it was necessary to find out the level of the fields and what level of water could stagnate in the fields without damaging the crop and any surplus flood-water above it should be passed into the sea over the weir. It would not be possible to lower the level of water in the fields below the level of the top of the weir. That did not seem to be a very satisfactory arrangement. It was therefore necessary to provide a vent at a lower level with shutters, so that, when the sea level was lower, the water in the back-waters might be discharged into the sea, but when the sea level was higher the shutters could prevent any flow from the sea into the lake. If however a channel at right angles to the beach was cut, there was every probability of the channel getting silted up by the deposit of sea sand by wave action. To avoid that, the channel should be cut parallel to the sea to some distance protecting it from sea action by means of heaps of boulders etc., and then it should be let into the sea at a lower level.

2. If the above scheme was considered to be impracticable on investigation another scheme might be adopted to keep the fields from getting inundated. The wall referred to in the first scheme might be built sufficiently high above the maximum flood level. The volume of water brought down which went to inundate the fields might be easily calculated. The difference between the maximum flood level and the ordinary water level in the Quilon canal was two or three feet and the average section of the canal might be taken at forty feet. The velocity would be three miles per hour or four and a half feet per second. The discharge was thus $40' \times 2\frac{1}{2}' \times 4\frac{1}{2}'$ or 450 cubic feet per second. If an iron or masonry pipe to discharge the above volume of water with a velocity of 10 ft. per second was made, the diameter of the pipe should be $7\frac{1}{2}$ ft. It was possible to make such a pipe and the required velocity could be obtained by making the end of the pipe wherein the water entered nearly 10 ft. in diameter and tapering the same to the required diameter of $7\frac{1}{2}$ ft. By that arrangement the water would be driven through with a good velocity. The pipe should be of sufficient length so that it might extend for a few yards into the sea. That would then prevent the end from getting silted up. If necessary, a reflex shutter which would allow water from the lake to flow into the sea but which would prevent the sea water getting into the pipe might also be provided. Should it be considered that the system would not work if the pipe be laid at right angles to the beach, it might be taken a short distance along the beach and then discharged into the sea. The mouth of the pipe at the exit could not get silted up as the water would be flowing out with such tremendous velocity that it would wash away anything on its way.

The Member also pointed out in that connection that the Railway authorities, who were making arrangements for constructing a bridge across the Ithicara river, should be instructed to keep sufficient water-way to discharge the floods without affecting irrigation. The Railway authorities were now excavating the bar on

LIBRARY ARCHIVES Kerala Legislative Assembly

both sides by removing the sand to such a depth as to make it below even the ordinary water level. That was dangerous as, with a small rise of water in the backwater, the bar would open at a time when it should not do. There was only a space of 25 ft. on the northern bank and 40 ft. on the southern bank. As the matter was very serious, he impressed upon the Government the urgent necessity of stopping the removal of sand from the bar and he requested that orders to that effect might be issued at a very early date.

Dewan's reply.—Noted.

71. The need for gravelling the public way from Kuttitheruvu to Krishnapuram.

Mr. N. Padmanabha Pillai (Member, Karunagapalli taluk) said that his request was that the existing way from Kuttitheruvu to Krishnapuram should be gravelled and made into a cartable road.

Dewan's reply.—An estimate for Rs. 23,100 has already been sanctioned for opening a cart-road from Pullikanakku to Krishnapuram and special funds to the extent of Rs. 15,000 provided for the work in the current year. Land-plans and area lists have been received from the Chief Engineer. The work will therefore be commenced as soon as the lands required for the road are handed over.

72. Improvements to the roads and canals in the taluk with a view to facilitate traffic, irrigation and navigation.

Mr. K. Velayudhan Pillai (Member, Karthigapalli taluk) requested that, with a view to facilitate traffic, irrigation and navigation, the following measures be sanctioned by the Government :—

(1) The road from Nangiarkulangara to Kayenkulam should be gravelled.

(2) The road from Haripad Police Station to Thottappalli should also be gravelled.

(3) The Thottappalli *chira* should be strengthened, widened and rendered cartable. The proposal to construct flights of steps should be given up and instead, the two sides of the Thottappalli bridge should be raised and made fit for cart traffic.

(4) The portion of the Mavelikara–Thrikunnapuzha road from Karthigapalli to Thrikunnapuzha, about 2½ miles in length, was entirley neglected and very few inspecting officers had seen it. It was an important highway in the taluk and should be repaired.

Dewan.—An estimate for Rs. 19,700 has been sanctioned for improving the second section of this road. The portion of the road from Karthigapalli to Thrikunnapuzha comes as the seventh item in the programme of works for the Quilon Division and will be taken up in its turn.

(5) The road from Haripad to Veyapuram should be repaired and rendered safe for traffic.

(6) To the east of the public road from the Taluk Cutcherry, there was a sign board containing the direction 'Elanjil–8 miles.' There was no such road beyond one mile.

Dewan.—This road appears as the 22nd in the list of works for the Quilon Division and will be taken up in its turn.

(7) Some parts of the Mundattumkara *thodu* from Kollakadavu river to Aranazhikanelpura *thodu* had been registered prior to the settlement and several portions were encroached upon by adjacent land-holders. The canal was useful for irrigation purposes and was an easy route to Pallippad, Cheppad, Pathiyur and other places from

LIBRARY ARCHIVES Kerala Legislative Assembly